

the width of the wings, as it will readily be recalled that the broad winged moths and butterflies show little if any flight of this character, whereas the narrow winged hawk moths, flies, bees, etc., which have the property distinctly developed are mostly narrow winged species. Furthermore, it seems that the development of lobes or other variable extensions of the membrane on the posterior border may be significant in this connection. An exhaustive comparison amongst different species of insects, and careful reference as to the extent to which hovering or backward flight is possessed by the different species would be an interesting matter in this connection, but the author has not had time to devote to such a research and the problem is presented here rather as a suggestion for investigation than with the idea that it has been exhausted.

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## FAUNISTIC STUDIES IN ENTOMOLOGY.

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I desire to call attention in this note to the desirability of more extensive and especially more distinctly correlated studies upon the insect fauna of the country and especially with reference to the localities represented by the members of this society.

There is no question, I think, as to the great desirability of studies on the geographical distribution of insects, but I have been particularly impressed with the necessity for such studies and the desirability that it should be pushed to greater intensity by recent efforts to secure data concerning the distribution of the species in a group upon which I have been engaged.

The records of occurrences for insects have always been a quite prominent feature of entomological journals and to a considerable extent, lists of species in certain groups, for certain localities, states, or districts, have appeared in various journals. While the preparation of such lists may by some be considered as a rather easy part of entomological investigations, it appears to me that accurately done work of this kind becomes of the highest scientific value, and that we may very well encourage it to the greatest extent that is possible. Undoubtedly this particular kind of work is one which could be entered upon with the greatest interest and with promise of most distinct

advancement to the science, if brought to the particular attention of the members of this society, and especially for those who are located in places where such studies have been neglected. In many cases such isolated individuals are deterred from undertaking the listing of their native species because of the idea that such work is not of primary importance, or from the difficulties encountered in finding the most satisfactory methods of preparation for various groups or securing the identification of such groups as may lie outside of their own especial field. These conditions may be greatly helped by the distinct stamp of approval of this society for such work and by some concerted effort to arrange so that determinations may be secured for the collections in different orders. The direct method of encouragement, it appears to me, may be best taken up by the appointment of a standing committee on faunistics, the duty of which committee shall be to suggest means for the encouragement of such local work, the assisting of individuals in placing their collections where they may be identified, the gathering of scattered and isolated local lists into more comprehensive ones, either for certain groups of insects or to cover certain geographical districts, or to develop the faunistic study of Entomology in such other ways as they may deem profitable. If this suggestion appeals to the society, I should be pleased to see such a committee organized at this meeting or at such time as may seem appropriate, and given such instruction as the society may see best. In general, it would seem desirable that such lists as have been mentioned should be published in the various journals to which they might be most appropriate, in the proceedings of state academies or other local societies and that the more extended faunistic papers resulting from the collection of these may be finally published in the *Annals* or in such journal as may give to them the widest distribution and permanence.

Some most excellent work of this kind is in progress in certain states and I think we will all agree as to the useful purpose that has been served by such extensive state lists as that on New Jersey Insects and many of us have had occasion to admire and make use of the extensive work in this line carried along by the State Entomologists of Illinois and of North Carolina. These are by no means the only cases of the kind but may serve to illustrate the utility of work in this field.